

SAFETY EVALUATION BY THE OFFICE OF NEW REACTORS  
RELATED TO EXEMPTION AND AMENDMENT NO. 23  
TO THE COMBINED LICENSE NO. NPF-91  
AND LICENSE NO. NPF-92  
SOUTHERN NUCLEAR OPERATING COMPANY, INC.  
GEORGIA POWER COMPANY  
OGLETHORPE POWER COMPANY  
MUNICIPAL ELECTRIC AUTHORITY OF GEORGIA  
CITY OF DALTON, GEORGIA  
VOGTLE ELECTRIC GENERATING PLANT UNITS 3 AND 4  
DOCKET NOS. 52-025 AND 52-026

## 1.0 INTRODUCTION

By letter dated November 4, 2013 (Agencywide Documents Access and Management System (ADAMS) Accession No. ML13309A631) Southern Nuclear Operating Company (SNC/licensee) requested that the U.S. Nuclear Regulatory Commission (NRC) amend the combined licenses (COLs) for Vogtle Electric Generating Plant Units 3 and 4 (VEGP), COL Numbers NPF-91 and NPF-92, respectively.

The proposed amendment provides for departure from the Updated Final Safety Analysis Report (UFSAR) Tier 1 material included in Appendix C of each of the VEGP Units 3 and 4 COLs. The proposed amendment would allow changes to correct editorial errors and promote consistency with the UFSAR Tier 2 information.

SNC has also requested an exemption from the provisions of Title 10 of the *Code of Federal Regulations* (10 CFR) Part 52, Appendix D, Section III.B, "Design Certification Rule for the AP1000 Design, Scope and Contents," to allow a departure from the elements of the certification information in Tier 1 of the generic Design Control Document (DCD).

This license amendment request (LAR) revises UFSAR Tier 1 information in COL Appendix C (Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e).

In a letter dated May 8, 2014 (ADAMS Accession No. ML14128A055), the licensee provided additional information that supplemented the application, did not expand the scope of the application as originally noticed, and did not change the NRC staff's original proposed no significant hazards consideration determination as published in the *Federal Register* on December 24, 2013 (78 FR 77729).

In order to modify UFSAR (the plant-specific DCD) Tier 1 information, the NRC must find the licensee's exemption request included in its submittal for the LAR acceptable. The staff's review of the exemption request as well as the license amendment request is included in this safety evaluation.

## 2.0 REGULATORY EVALUATION

Tier 1 Information is defined in 10 CFR Part 52, Appendix D Section II.D. 10 CFR Part 52, Appendix D Section II.D.3 lists inspections, tests, analyses, and acceptance criteria (ITAAC) as part of the definition for Tier 1 information. The information that the licensee is requesting to change is referenced in ITAAC Tables. Therefore, the information is considered Tier 1 information.

10 CFR Part 52, Appendix D, Section VIII.A.4 states that exemptions from Tier 1 information are governed by the requirements of 10 CFR 52.63(b)(1) and 10 CFR 52.98(f). It also states that the Commission may deny such a request if the design change causes a significant reduction in plant safety otherwise provided by the design.

10 CFR 52.63(b)(1) allows the licensee to request NRC approval for an exemption from one or more elements of the certification information. The Commission may only grant such a request if it complies with the requirements of 10 CFR 52.7 which in turn points to the requirements listed in 10 CFR 50.12 for specific exemptions, and if the special circumstances present outweigh the potential decrease in safety due to reduced standardization. Therefore, any exemption from the Tier 1 information certified by Appendix D to 10 CFR Part 52 must meet the requirements of 10 CFR 50.12, 52.7 and 52.63(b)(1).

10 CFR 52.98(f) states that any modification to, addition to, or deletion from the terms and conditions of a COL including any modification to, addition to, or deletion from the ITAAC contained in the license is a proposed amendment to the license. Appendix C of COLs NPF-93 and NPF-94 contain tables and a figure which the licensee is proposing to modify. Therefore, the proposed change requires a license amendment.

## 3.0 TECHNICAL EVALUATION

### 3.1 EVALUATION OF EXEMPTION

#### INTRODUCTION

The regulations in Section III.B of Appendix D to 10 CFR 52 require a holder of a COL referencing Appendix D to 10 CFR Part 52 to incorporate by reference and comply with the requirements of Appendix D, including certified information in Tier 1 of the generic AP1000 DCD.

As defined in Section II of Appendix D to 10 CFR Part 52, Tier 1 information includes ITAAC. Therefore, a licensee referencing Appendix D incorporates by reference all the ITAAC contained

in the generic DCD. These ITAAC, along with the plant-specific ITAAC, were enumerated in Appendix C of the COL at its issuance. The proposed changes would depart from plant-specific DCD by correcting Tier 1 editorial errors (e.g., typing, spelling, data entry, and incorrect tag numbers). The proposed change will also correct inconsistencies between Tier 1 and UFSAR Tier 2. An exemption is needed because Section III.B of Appendix D to 10 CFR 52 requires a licensee to comply with the Tier 1 information of the generic AP1000 DCD.

In summary, the end result of this exemption would be that the licensee can implement modifications to Tier 1 information described and justified in LAR 13-017 if and only if the NRC approves LAR 13-017. This is a permanent exemption limited in scope to the particular Tier 1 information specified.

As stated in Section VIII.A.4 of Appendix D to 10 CFR 52, an exemption from Tier 1 information is governed by the requirements of 10 CFR 52.63(b)(1) and 52.98(f). Additionally, the Commission will deny an exemption request if it finds that the requested change to Tier 1 information will result in a significant decrease in safety. Pursuant to 10 CFR 52.63(b)(1), the Commission may, upon application by an applicant or licensee referencing a certified design, grant exemptions from one or more elements of the certification information, so long as the criteria given in 10 CFR 52.7 are met, and that the special circumstances as defined by 10 CFR 52.12 outweigh any potential decrease in safety due to reduced standardization.

Pursuant to 10 CFR 52.7, the Commission may, upon application by any interested person or upon its own initiative, grant exemptions from the requirements of 10 CFR Part 52. 10 CFR 52.7 further states that the Commission's consideration will be governed by 10 CFR 50.12, "Specific exemptions," which states that an exemption may be granted when: (1) the exemptions are authorized by law, will not present an undue risk to public health or safety, and are consistent with the common defense and security; and (2) special circumstances are present. 10 CFR 50.12(a)(2) lists six special circumstances for which an exemption may be granted. It is necessary for one of these special circumstances to be present in order for NRC to consider granting an exemption request. The licensee stated that the requested exemption meets the special circumstances of 10 CFR 50.12(a)(2)(ii). That subsection defines special circumstances as when "application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule." The staff's analysis of each of these findings is presented below.

### 3.1.1 AUTHORIZED BY LAW

This exemption would allow the licensee to implement approved changes to Tier 1 Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e). This is a permanent exemption limited in scope to particular Tier 1 information, and subsequent changes to Tier 1 Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e) or any other Tier 1 information, would be subject to full compliance by the licensee as specified in Section III.B of Appendix D to 10 CFR 52. As stated above, 10 CFR 52.63.b(1) allows the NRC to grant exemptions from one or more elements of the certification information, namely, the requirements of Section III.B of Appendix D to 10 CFR 52. The NRC staff has determined that granting of the licensee's proposed exemption will not result in a violation of the Atomic Energy Act of 1954, as amended, or the Commission's regulations. Therefore, as required by 10 CFR 50.12(a)(1), the exemption is authorized by law.

### 3.1.2 NO UNDUE RISK TO PUBLIC HEALTH AND SAFETY

The underlying purpose of Section III.B of Appendix D to 10 CFR 52 is to ensure that the licensee will construct and operate the plant based on the approved information found in the DCD incorporated by reference into the licensee's licensing basis. The changes do not add, delete, or modify systems or equipment as described in Tier 1 of the AP1000 DCD. These changes will not impact the ability of the structures to perform their design function. Because the changes will not alter the operation of any plant equipment or systems, these changes do not present an undue risk from existing equipment or systems. These changes do not add any new equipment or system interfaces to the current plant design. The description changes do not introduce any new industrial, chemical, or radiological hazards that would represent a public health or safety risk, nor do they modify or remove any design or operational controls or safeguards intended to mitigate any existing on-site hazards. Furthermore, the proposed changes would not allow for a new fission product release path, result in a new fission product barrier failure mode, or create a new sequence of events that would result in significant fuel cladding failures. Accordingly, these changes do not present an undue risk from any new equipment or systems. Therefore, as required by 10 CFR 50.12(a)(1), the staff finds that there is no undue risk public health and safety.

### 3.1.3 CONSISTENT WITH COMMON DEFENSE AND SECURITY

The proposed exemption would allow editorial and consistency changes to elements of the plant-specific Tier 1 DCD. This is a permanent exemption limited in scope to particular Tier 1 information. Subsequent changes to Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e) or any other Tier 1 information would be subject to full compliance by the licensee as specified in Section III.B of Appendix D to 10 CFR 52. The change does not alter or impede the design, function, or operation of any plant structures, systems or components (SSCs) associated with the facility's physical or cyber security, and therefore does not affect any plant equipment that is necessary to maintain a safe and secure plant status. In addition, the changed has no impact on plant security or safeguards. Therefore, as required by 10 CFR 50.12(a)(1), the staff finds that the common defense and security is not impacted by this exemption.

### 3.1.4 SPECIAL CIRCUMSTANCES

Special circumstances, in accordance with 10 CFR 50.12(a)(2)(ii), are present whenever application of the regulation in the particular circumstances would not serve the underlying purpose of the rule or is not necessary to achieve the underlying purpose of the rule. The underlying purposes of Section III.B of Appendix D to 10 CFR Part 52 is to ensure that the licensee will construct and operate the plant based on the approved information found in the AP1000 DCD which was incorporated by reference into the licensee's licensing basis. The proposed changes to correct editorial and consistence issues between Tier 1 and Tier 2 maintain the functions of these systems. These changes are necessary to enhance the ability of the licensee to construct the plant based on the information in the certified design, by clarifying the information found in Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e). If this exemption is not granted, and the proposed changes in the LAR are not allowed to be implemented, then the Tier 1 would not conform to the UFSAR Tier 2 design descriptions, and the performance of the Tier 1 ITAAC would not accurately verify construction of the proposed design. Therefore, because the application of Section III.B of Appendix D to 10 CFR Part 52 in this circumstance does not serve the underlying purpose of the rule, the staff finds that the

special circumstances required by 10 CFR 50.12(a)(2)(ii) for the granting of an exemption from Section III.B of Appendix D to 10 CFR Part 52 exist.

### 3.1.5 SPECIAL CIRCUMSTANCES OUTWEIGH REDUCED STANDARDIZATION

This exemption would allow the implementation of changes to Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e) proposed in the LAR. The design functions of the systems associated with this request will continue to be maintained. So while the text in the table may be changed, the changes have no effect on any SSCs meeting their design function. No design information is changed, simply the way it is being presented. In fact, because these changes better align the text of the ITAAC table with the actual design standardization is improved because this change clarifies the ITAAC, ensuring that the ITAAC accurately test that the plant is built as designed. Based on this, as required by 10 CFR Part 52.63(b)(1), the staff finds that the special circumstances outweigh the effects the departure has on the standardization of the AP1000 design.

### 3.1.6 NO SIGNIFICANT REDUCTION IN SAFETY

This exemption would allow the implementation of changes to Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10 2, and 2.1.1-1, and Section 3.2, Item 1.e) proposed in the LAR. The changes for consistency and clarity will not impact the functional capabilities of these components. The proposed changes to the system and non-system based descriptions will not adversely affect the ability of the SSCs to perform their design functions and the level of safety provided by the SSCs is unchanged; therefore, as required by 10 CFR Part 52, Appendix D, Section VIII.A.4, the staff finds that granting the exemption would not result in a significant decrease in the level of safety otherwise provided by the design.

## 3.2 EVALUATION OF PROPOSED CHANGES

The information presented by the licensee in this LAR was evaluated by NRC staff for its completeness, quality, and clarity. No new technical review of the designated changes proposed to be modified by this LAR was required or performed. This is because the changes to Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e) of Appendix C of the COL, are derived from Tier 2 information, and this Tier 2 information was reviewed during the evaluation of the AP1000 DCD and then incorporated by reference into SNC's COL application for VEGP Units 3 and 4. As part of this license amendment, VEGP did not request any changes to design information; it merely requested changes to how the design information was described in Tier 1. The following paragraphs describe the staff's approach to review the LAR.

The staff reviewed the proposed changes and determined that the changes do not affect any of the information used or cited in the NRC's safety findings as documented in either the AP1000 DCD Final Safety Evaluation Report (FSER) or the VEGP Units 3 and 4 COL FSER. The proposed changes to Figure 2.2.5-1, Tables; 2.6.3-4, 3.5-3, 3.5-7, 2.2.3-1, 3.5-1, 3.3-6, 2.7.1-4, 2.6.6-1, 2.2.3-4, 2.3.10-2, and 2.1.1-1, and Section 3.2, Item 1.e) of Appendix C of the COL are to correct inconsistencies or editorial errors. There are no changes to the design, functional capabilities, method for performing a function, design analysis, safety analysis or to UFSAR Tier 2 information involved, and thus, the requested Tier 1 changes do not affect any design functions. The proposed changes do not involve a change to the method of evaluation for

establishing design bases or safety analyses. Tests, experiments and procedures described in the licensing basis were not changed by these departures. The proposed changes do not represent a change to a design feature credited in the ex-vessel severe accident assessment.

- *Tag Number Updates*

The NRC staff verified that the changes to the tag numbers on Figure 2.2.5-1, Tables 2.6.3-4, 3.5-7, and 3.5-7 of Appendix C of the COL, accurately reflect the Tier 2 information depicted in UFSAR Tables 3.2-3, 3.7-1, 3.11-1, and 11.5-1, the information in UFSAR Subsection 11.5.2.3.3, and Tier 1 Tables 3.5-3 and 3.5-7. These changes do not involve a technical change. The staff reviewed the updated information, and confirmed that it provides consistency between Tier 1 and Tier 2.

- *Diverse Actuation System (DAS) Update*

The staff verified that the proposed changes to Table 2.2.3-1 of Appendix C of the COL which depict two Passive Core Cooling System (PXS) valves as being controlled by the protection and safety monitoring system (PMS) and not the DAS are consistent with the Tier 2 information in UFSAR Figure 7.2-1 (Sheet 21). In addition, the function of the proposed valve control is consistent with the function descriptions in Section 7.5 of the UFSAR and the NRC staff's evaluation documented in Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design, NUREG-1793, Supplement 2.

- *Containment Atmosphere Radiation Monitor (PSS) Identified Function Update*

The staff verified that the proposed changes to Tables 3.5-1 and 3.5-7 of Appendix C of the COL to refer to Containment Atmosphere Radiation Monitor RE027 as a "gaseous" monitor and not a "particulate" monitor are consistent with both the information in UFSAR Subsection 11.5.2.3.1 and the NRC staff's evaluation documented Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design, NUREG-1793, Supplement 2.

- *Passive Core Cooling System Accumulator Name Update*

The staff verified that the proposed change to (ITAAC) Table 3.3-6 of Appendix C of the COL to correctly identify "PXS valve/accumulator" instead of the incorrect "PXS/accumulator." This change is consistent with UFSAR Subsection 9A.3.1.1.4 and other references within Tier 1 Table 3.3-6.

- *Inspections, Tests, Analyses Subject Clarification*

The staff verified that the proposed change to (ITAAC) Table 2.7.1-4 of Appendix C of the COL to correctly refer to "piping" instead of the incorrect "components." This change is consistent with both the correct references within Tier 1 Table 2.7.1-4 and Table 2.7.1-2.

- *Clarification to Identify Open Raceways*

The staff verified that the proposed change to (ITAAC) Table 3.3-6 of Appendix C of the COL to clarify "raceway" to "open raceway." This change is consistent with Tier 1 Table 3.3-6, ITAAC 7.d), Inspections, Tests, Analyses, Item ii) 4) and UFSAR Subsection 8.3.2.4.2.

- *Grounding and Lightning Protection System ITAAC Table Spelling Errors*

The staff verified that the proposed change to (ITAAC) Table 2.6.6-1 of Appendix C of the COL to correct a spelling error from “lighting” to “lightning” is consistent with the UFSAR information in Subsections 8.3.1.1.7 and 8.3.1.1.8.

- *Passive Core Cooling System Table Typing Error*

The staff verified that the proposed change to (ITAAC) Table 2.2.3-4 of Appendix C of the COL to correct a typing error from “PSX” to “PXS” is consistent with the Tier 1 information in Section 2.2.3.

- *Deleting Non-ASME Code Section III Lines from an ASME Code Section III Table*

The staff verified that the proposed change to (ITAAC) Table 2.3.10-2 of Appendix C of the COL is to correct an inconsistency within Tier 1. This change is consistent with the UFSAR Tier 2 design information in Section 3.2.2 and Tier 1 Table 2.2.1-1.

- *Clarifying the Scope of an ITAAC Line Item*

The staff verified that the proposed change to (ITAAC) Table 2.1.1-1 of Appendix C of the COL to remove “new and” from “new and spent fuel” from the Inspections, Tests, Analyses and the Acceptance Criteria description. This change is consistent with Tier 1 Table 2.1.1-1, Design Commitment Item 7 and UFSAR Subsection 9.1.1.2.1.

- *Editorial Change to Correct the Title of a Document in a Design Description*

The staff verified that the proposed change to correct the title of report APP-OCS-GEH-520 from, “AP1000 Plant Startup Human Factors Engineering Verification Plan,” to “AP1000 Plant Startup Human Factors Engineering Design Verification Plan,” is consistent with the report.

All of the above proposed changes do not represent any technical changes to the design, construction, or operation of the plant. No structure, system, component, design function, or analysis as described in the UFSAR is affected.

#### 4.0 STATE CONSULTATION

In accordance with the Commission's regulations in 10 CFR 50.91(b)(2), the Georgia State official was notified of the proposed issuance of the amendment. The State official had no comments.

#### 5.0 ENVIRONMENTAL CONSIDERATION

The amendment changes a requirement with respect to installation or use of a facility component located within the restricted area as defined in 10 CFR Part 20. The NRC staff has determined that the amendment involves no significant increase in the amounts, and no significant change in the types, of any effluents that may be released offsite, and that there is no significant increase in individual or cumulative occupational radiation exposure. The Commission has previously issued a proposed finding that the amendment involves no significant hazards consideration, and there has been no public comment on such finding

(78 FR 77729; published on December 24, 2013). Accordingly, the amendment meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Pursuant to 10 CFR 51.22(b), no environmental impact statement or environmental assessment need be prepared in connection with the issuance of the amendment.

Because the exemption is necessary to allow the changes proposed in the license amendment, and because the exemption does not authorize any activities other than those proposed in the license amendment, the environmental consideration for the exemption is identical to that of the license amendment. Accordingly, the exemption meets the eligibility criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9). Therefore, pursuant to 51.22(b), no environmental impact statement or environmental assessment needs to be prepared in connection with the issuance of the exemption.

## 6.0 CONCLUSION

The staff has determined that pursuant to Section VIII.A.4 of Appendix D to 10 CFR Part 52, the exemption (1) is authorized by law, (2) presents no undue risk to the public health and safety, (3) is consistent with the common defense and security, (4) is a special circumstance (5) that outweighs the reduction in standardization, and (6) does not significantly reduce the level of safety at the licensee's facility. Therefore, the staff grants the licensee an exemption from the requirements of 10 CFR Part 52, Appendix D, Section III.B.

The staff has concluded, based on the considerations discussed in Section 3.2 and confirming that these changes do not change an analysis methodology, assumptions, or the design itself, that: (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) there is reasonable assurance that such activities will be conducted in compliance with the Commission's regulations, and (3) the issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public. Therefore, the staff finds the changes proposed in this license amendment acceptable.

## 7.0 REFERENCES

1. Request for License Amendment and Exemption 13-017: Tier Editorial and Consistency Changes, letters from Southern Nuclear Operating Company (SNC), dated November 4, 2013 (ADAMS Accession No. ML13309A631) and May 8, 2014 (ADAMS Accession No. ML14128A055).
2. Vogtle Electric Generating Plant Updated Final Safety Analysis Report (UFSAR), Revision 2, dated July 3 2013 (ADAMS Accession No. ML13205A266).
3. AP1000 Design Control Document, Revision 19, dated June 13, 2012 (ADAMS Accession No. ML11171A500).
4. Vogtle Electric Generating Plant, Final Safety Evaluation Report (FSER) dated August 5, 2011 (ADAMS Accession No. ML111950510 - letter, ADAMS Accession No. ML110450302 - FSER package).
5. Final Safety Evaluation Report Related to Certification of the AP1000 Standard Plant Design, NUREG-1793, Supplement 2, dated August 5, 2011 (ADAMS Accession No. ML112061231).